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St. Lawrence bay, October 20, 1878, reports that the natives have seen a vessel.

So far this has been one of the most successful and important of modern exploring voyages. The chart of the voyage is published in the *Mittheilungen* for January, and is of great interest to geographers, as so many corrections have been made in the coast-line of the northern shores of Asia.

The discovery by the Norwegian Captain E. Johannsen, of a small island in long.  $81^{\circ}$  E. and lat.  $77^{\circ} 55'$  N., was made on the 3d of September last. He named it "*Ensomheden*" (Loneliness). The sea was open in every direction round it except to the south-east, where drift-ice was to be seen.

Already commerce has sprung up on the new route, and during the last season vessels were sent out from English, German, and Norwegian ports, and made more or less successful voyages to the Ob and Yenisei and back.

#### MICROSCOPY.<sup>1</sup>

NUCLEATED RED CORPUSCLES OF HUMAN BLOOD.—Many of the readers of the AMERICAN NATURALIST are familiar with the little instrument generally known as Beck's Vertical Illuminator, it is in fact a modification of a device invented by Prof. H. L. Smith, of Geneva, N. Y.

This illuminator was originally intended to be used in conjunction with medium power, dry objectives, of moderate angles, such as were formerly so much in vogue. Mr. Morehouse, a well known microscopist of Wayland, New York, fortunately discovered that by the conjoint use of the illuminator with immersion objectives of high balsam apertures, astonishing results might be secured, as for instance the resolution of the markings of podura and other insect scales, the striation of valves of *Frustulia saxonica*, *Surirella gemma* and similar "difficult" diatoms, under amplifications of 3000 and 4000 diameters, and as a matter of course, by reflected light.

Mr. Morehouse promptly informed me of his results, and I immediately repeated his experiments, and with perfect success; I also devised a modification, consisting of an adjustable shutter, regulating the admission of light, thus greatly improving the brilliancy of the objects, accompanied with marked increase of resolving power, and with the instrument thus modified I had no difficulty in obtaining beautiful displays of the Nobert 19th band, the simultaneous exhibition of the long and transverse striæ of *Frustulia saxonica*, etc., under powers of three and four thousand diameters.

Desiring to test the vertical illuminator over histological preparations, I thus examined a slide of human blood, improvised for the occasion, and was astonished to find about three-fourths of

<sup>1</sup> This department is edited by Dr. R. H. Ward, Troy, N. Y.

the red corpuscles nucleated, the amplification employed in these observations was about 3700 diameters.

My observations with the vertical illuminator as above related, were presented to the Dunkirk Microscopical Society in a paper which I had the honor to read before that society some two years ago, on which occasion many of the observations were publicly repeated, since which date similar results, as to the nucleus of the red corpuscles, have been arrived at by others, but as far as I can learn, these later observers subject the blood to treatment by means of re-agents, etc., the direct observations, therefore, as obtained with the vertical illuminator are to be preferred.

A point which should not be lost sight of is this, the vertical illuminator can only be successfully used in conjunction with an objective of high balsam angle; and may it not be further suggested that the use of wide angled glasses is not to be confined to the work of the diatomist?—*J. Edwards Smith, M.D., Cleveland, Ohio, Dec., 1878.*

THE WENHAM COMPRESSORIUM. — Mr. Geo. O. Mitchell, of Hanover, N. H., is making this useful little accessory of a somewhat smaller size than usual, and at a less price. His instruments have been furnished to several colleges and to experienced workers with the microscope. They are well made, and are sent by mail for \$1.50, or nickel-plated for \$1.75.

EXCHANGES. — Frank S. Collins, 26 Tremont street, Boston, Mass., would like to exchange New England for California, Florida and other Algæ.

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## SCIENTIFIC NEWS.

— Dr. Albert Günther, director of the zoölogical department of the British Museum, has received the gold medal of the Royal Society for his important researches on the zoölogy and anatomy of the fishes and reptiles.

— The *Polytechnic Review* of Dec. 21, states that "Prof. J. Gibbons Hunt, of New York, one of the most accomplished microscopists in the country, says that it is affectation or stupidity for Americans to send to Europe for microscopes when they can now purchase better ones at home." It will surprise Dr. Hunt's friends to learn that he is "of New York," especially since the editor of the "*Review*" is, like Dr. Hunt, a citizen of Philadelphia.

— We learn that the Princeton Geological and Palæontological party met with excellent success during the past season. They visited the region of the Mammoth Buttes, east of the Green river, in southern Wyoming, which was explored by Prof. Cope in 1872, and obtained fine series of *Loxolophodon cornutus*, *Palæosyops vallidens* and other species. They will be able to furnish much additional information as to the structure of these